



STATE OF IDAHO

DEPARTMENT OF AGRICULTURE

MEMORANDUM

DIRK KEMPTHORNE

Governor

PATRICK A. TAKASUGI

Director

TO: Mike Cooper, Acting Administrator
FROM: Director Patrick A. Takasugi
PC: Curt Thornburg, Program Manager
RE: Alternatives to Crop Residue Burning
DATE: July 22, 2003

A handwritten signature in black ink, appearing to be "Patrick A. Takasugi", written over the "FROM" line of the memorandum.

This memorandum is in regards to the *Smoke Management and Crop Residue Disposal Act* (Smoke Management Act) codified at Idaho Code § 22-4801 *et seq.* (2003). The Smoke Management Act mandates that I make a determination that no economically viable alternatives to burning are available. This determination must be made before open burning of crop residue becomes an allowable form of open burning. Specifically, the Smoke Management Act provides in Idaho Code § 22-4803(1):

The open burning of crop residue grown in agricultural fields shall be an allowable form of open burning when the provisions of this chapter, and any rules promulgated pursuant thereto, and the environmental protection and health act, and any rules promulgated pursuant thereto, are met, and when no other economically viable alternatives to burning are available, as determined by the director, for the purpose of:

- (a) Disposing of crop residue;
- (b) Developing physiological conditions conducive to increased crop yields; or
- (c) Controlling diseases, insects, pests or weed infestations.

The following represents my determination as directed by the Smoke Management Act.

I have reviewed the documents Program Manager Thornburg provided regarding the alternatives to crop residue burning in the state of Idaho. Those documents relate primarily to thermal disposal of Kentucky bluegrass. Based on my review of those documents, I find that no economically viable alternatives to thermal disposal of Kentucky bluegrass are available to Idaho producers under the factors set out in § 22-4803(1). I construe the term "economically viable alternative" to mean an alternative to thermal residue disposal that (1) achieves agricultural objectives comparable to thermal disposal for the factors listed in § 22-4803(1)(a)-(c) and (2) allows growers to experience a financial rate of return over the short- and long-term consistent with the rate of return that would occur if thermal residue disposal were utilized.

The department has not uncovered any studies or data that establish any economically viable alternatives to thermal disposal of crop residue for other types of crops, including, but not limited to, cereal grain stubble and field forage grasses that are burned in Idaho. Therefore, I find that no economically viable alternatives are available for Idaho producers who traditionally utilize a thermal disposal protocol for crop residue.

My finding with respect to Kentucky bluegrass residue disposal is based on the following:

- (1) Disposing of crop residue: The documents reviewed indicate that alternative markets for baled bluegrass residue are speculative and equipment, storage, and additional inputs are cost prohibitive.
- (2) Developing physiological conditions conducive to increased crop yields: The documents reviewed indicate that thermal production of Kentucky bluegrass is necessary to achieve adequate thinning of the bluegrass stand and to provide adequate light to the grass crowns and tillers.

The documents reviewed regarding mechanical removal of Kentucky bluegrass residue indicate that non-thermal bluegrass seed production systems will reduce the consecutive number of bluegrass seed crops from ten or more to approximately three crops. These data do not support the economic viability of a non-thermal disposal protocol requiring Idaho producers to harvest a substantial seed crop for approximately seven to ten years in order to recoup high input, stand establishment and continuing management costs.

- (3) Controlling diseases, insects, pests or weed infestations: The documentation reviewed indicates that non-thermal produced Kentucky bluegrass requires significantly higher input costs. These input costs include increased fertilizer, pesticide, and herbicide applications as well as increased petroleum use.